Up Close with the Nation's Symbol

by Glenda C. Booth

A sliver of mid-March moon and sparkling sky gently illuminate soybean stubble in the U.S. Fish and Wildlife Service's Rappahannock River Valley National Wildlife Refuge. It's 5:30 a.m., 36 degrees.

Her truck bed loaded with three deer carcasses, Sandy Spencer, U.S. Fish & Wildlife Service biologist, joins DGIF coordinator for nongame bird projects Jeff Cooper in the Richmond County field. The land called the Tayloe Tract abuts Cat Point Creek, a tidal tributary of the Rappahannock River. They quietly align the deer near the mid-point of a 30-by-40-foot nylon net furled under a camouflage of loose hay. The goal? To catch a bald eagle *(Haliaeetus leucocephalus)*.

Cooper and Spencer then retreat to a dark, weathered shed 100 yards from the net, partly concealed by briars and shrubs, where two volunteers shuffle in the chill. Dawn's avian chorus begins its crescendo.

Everyone peeks through several 2- to 4-inch vertical gaps in the walls. Around 7 a.m., Cooper spots three bald eagles fishing in the creek, nowhere near the bait. The group waits . . . and waits . . . and waits . . . and waits some more. In between chunks of homemade cornbread,

Jeff Cooper, DGIF coordinator for nongame bird projects, displays the catch, a male bald eagle around three years old. ***Right:*** *Cooper extracts the eagle from the net.*

someone jokes about the area's reputation as an eagle hotspot. In fact, it had 145 eagles in 2007. The gizzard shad and white perch are running and the birds are probably feeding on fish, speculates Cooper. More waiting.

Several vultures swoop across the sky, investigating aerially. A few eagles soar overhead off and on, circling broadly 300 to 400 feet up, but

Dwight Dyke

It takes five years for a bald eagle to reach full maturity and acquire a white head and white tail.

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they drift away. It seems like an avian tease. Finally, around hour four, a bald eagle checks out the bait at 100 feet or so above.

At 10:55, the morning has warmed up and two unsuspecting turkey vultures suddenly land and begin to feed—a good sign! Wary eagles are lured to land if vultures are feeding, says Cooper.

At 11:00, a mottled eagle sails overhead just above the tree tops and suddenly hits the ground 30 yards away from the deer, out of the net's range. Cooper instructs, "Be quiet. Don't move."

The eagle takes halting 'baby steps' for what seems like an hour toward the bait. Everyone cranes, stiffly, soundlessly. Under his breath, Cooper says that the eagle is nibbling; a catch could be imminent. He begins a whispered countdown. "Don't fire until I say fire," he instructs Bob Cralle, a first-time volunteer assigned to push the detonator. Slowly, slowly, dragging out the words, Cooper intones, "Three." Pause. "Two." Pause. "One." Long pause. *"Fire!"* Cralle fires.

A deafening blast cuts across the field and in split seconds, three rockets propel the net up, out, and down over the birds. "We got him," Cooper exults, and he yells at David Whitehurst, who serves as the director of the bureau of wildlife resources for the DGIF and happens to be a long distance runner, to sprint to the captives. The less agile follow.

Cooper throws his coat over the scrunched up eagle. Carefully handling the bird's razor-sharp talons and menacing beak, he deftly extracts the bird from the net, his experience evident. This is one angry bird. Cooper says it's a male. The eagle repeatedly stretches his beak open wide, slashes around his long pink tongue and glares at his captors with fierce, piercing eyes. He's ready for battle. Cooper announces, "He's a small one." Small or not, he's important.

Cooper and Spencer slip an improvised sock cap over the bird's head to calm him. They examine his plumage and Cooper explains that he is a third-year bird with second-year plumage. They bind his claws with ace bandages.

With the bird's eyes covered and talons bound, they measure the beak, wing and halux (or, thumb). They swaddle the body with an ace bandage and weigh him: eight pounds and four ounces.

Cooper clamps a metal band on each ankle. The first is from the U. S. Geological Survey banding lab, bands that have been used for decades. Band recovery provides most of what scientists know about birds' movements. 'Our' eagle becomes number 62947696.

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USF&WS biologist Sandy Spencer weighs the young eagle.

Then Cooper puts on a purple band, identifying the eagle as "W" over "C," with purple denoting that the catch was in the Chesapeake Bay area. Each East Coast state uses a different color.

After a picture-taking session, 15 minutes have elapsed. Cooper loosens the binds and sends "W. C." to the skies.

Looking for Answers

Why do biologists go out before sun-up in the cold, crouch in a dark shed, squint through board slits for hours, and scan the sky for eagles? "This will help us better understand their movement among states and among concentration areas in Virginia and Maryland. It will help us locate high priority habitat and protect these areas, which in turn helps ensure the eagles' survival," answers Cooper.

The Chesapeake Bay, a rich fishery, is an area of convergence for migrating bald eagles and has the second largest breeding population on the East Coast. The Rappahannock, James, Potomac, York, Nanticoke, and Pocomoke rivers are home to large concentrations.

The Chesapeake region hosts three distinct populations: resident eagles that move around but primarily stay in the bay area, 'northern' eagles that use the bay in the winter and 'southern' eagles that use the estuary in the summer. "These birds are hardwired to use the bay as an important component of their life cycle," stresses Cooper.

Cooper wants to learn more about communal roosts. "A roost site is more important than a single nest site because it is used by multiple birds, migrants, and immature birds," he emphasizes. Biologists think that eagles may "exchange information" and that the young learn from older birds on the roosts.

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Above: *Cooper measures the eagle's wingspan, as Spencer assists. DGIF's David Whitehurst records the data.* ***Below left:*** *Cooper measures the talon.*

More Information:

Bald eagle facts—www.dgif.virginia.gov/wildlife/birds/bald-eagles.asp.

The Rappahannock River Valley National Wildlife Refuge—www.fws.gov/northeast/rappahannock.

History of recovery—www.fws.gov/midwest/eagle/recovery/biologue.html.

Virginia's Breeding Population and Productivity—ccb.wm.edu/eaglevideo/eagle_background.htm.

Virginia's Protection Guidelines—www.dgif.virginia.gov/wildlife/laws/

Federal Management Guidelines—www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf.

DGIF Eagle cam: www.dgif.virginia.gov/eaglecam.

If you see a banded eagle—

Report any banded eagle you see (and ideally, the number) to the Virginia Department of Game and Inland Fisheries, 804-367-1693.

Lee Walker

Releasing a banded eagle safely back to its natural environs is the ultimate goal.

"We don't know where many roosts are, but if we did, it would enable us to assess the quality of the site, the extent of use, and then work with landowners to preserve the site," Spencer says. "Roost sites and forage areas are as important as nests in the bald eagle's life cycle, but because they may not be as obvious to the casual observer, they may inadvertently be impacted by incompatible land uses."

Why does DGIF do this work? "What happens in Virginia, Maryland and the Chesapeake Bay has implications for populations up and down the East Coast. We have a lot of responsibility not only for our breeding population, but for migrant eagles that depend on the bay's concentration areas for part of their life cycle," maintains Cooper.

"We need to know what areas are of highest importance to ensure that high quality habitat is not lost. Tracking and monitoring eagles is the only way to identify where high priority areas are located. That is one of the most important bits of information we could glean if we used transmitters," he emphasizes.

Challenges

Habitat loss is the major threat to bald eagles today, Cooper explained in a later interview. Shoreline habitat is diminishing, especially on the Potomac, James, and Rappahannock rivers. "Once it's developed, it's out of production forever," Cooper lamented.

Eagle expert Brian Watts concurred: "Urban sprawl and shoreline development have replaced DDT as the greatest threat," said Watts, who directs William and Mary College's Center for Conservation Biology. "With more than 75 percent of pairs on private land, the future will rest with private landowners," he added.

Cooper works with hundreds of landowners and usually, they find ways to protect eagles and still use private property."In most instances, development is not stopped," he said.

Federal wildlife managers like those at the Rappahannock refuge are permanently protecting bald eagle habitat along several Virginia waterways. "Bald eagles are an important focus of our management on three refuges on the James and Rappahannock rivers," said Joe McCauley, Rappahannock refuge manager. "It's the most important function we serve. Just because eagles were removed from the list of federally-threatened species, there's still work to be done. Now that they are completely removed does not mean we can relax. FWS will still maintain it as a focal species," he stressed.

Toxic lead is another worry. Cooper gets several reports a year of lead toxicosis in bald eagles. "Lead poisoning in eagles is surprisingly common," according to Jonathan Sleeman, DGIF's wildlife veterinarian. While sources are unconfirmed, Sleeman suspects eagles come across it in fishing sinkers and lead shot. Steel and many alternatives are now available to anglers and hunters.

Starting in the winter, DGIF and Virginia Tech will take blood samples, measure lead levels, try to correlate the findings with the food eagles eat, and analyze body growth.

Finally, there's global warming. Cooper speculates that with warmer winters up north and more open water there, fewer eagles may be coming south, but this has not been documented. Warming can also affect the range and distribution of prey species and change salinity levels in rivers.

"Rising temperatures and sea level in the state will likely change the makeup of entire ecosystems, forcing wildlife to shift their ranges or adapt," says the National Wildlife Foundation. Global warming is linked to many birds moving their traditional ranges. The bald eagle's range is moving inland, according to a February National Audubon Society report. "Now they are wintering inland as far north as the ice will let them and they now winter all across the 48 states and southern Canada. We found wintering bald eagles increasing in all 48 contiguous states," reported Greg Butcher, Audubon's director of bird conservation.

Onward

Cooper is in his second year of rocket netting eagles. In 2008, he caught three; in 2009, 11. He has his fingers crossed for satellite telemetry equipment, which costs around $2,500 per bird, plus $200 per month or so to track a bird.

Jeff Cooper devotes hours—at all hours—in light or dark, to crawl around farm fields and hide out in old sheds to save bald eagles. What's next? He hopes to catch 40 to 50 bald eagles a year in multiple locations over the next five winters to expand our knowledge of this majestic bird, symbol of the strength of the nation.

"It's just a matter of having the time. It's not too hard to catch them," he chuckled. □

Glenda C. Booth, a freelance writer and legislative consultant, grew up in Southwest Virginia and has lived in Northern Virginia 37 years, where she is active in conservation efforts.